Day 77

Q. You are given an array A of N elements. For any ordered triplet (i,j,k) such that i, j, and k are pairwise distinct and 1≤i,j,k≤N, the value of this triplet is (Ai?−Aj?)·Ak?. You need to find the maximum value among all possible ordered triplets.
Note: Two ordered triplets (a,b,c) and (d,e,f) are only equal when a=d and b=e and c=f. As an example, (1,2,3) and (2,3,1) are two different ordered triplets.

Input Format
The first line of the input contains a single integer T - the number of test cases. The test cases then follow.
The first line of each test case contains an integer N.
The second line of each test case contains N space-separated integers A1?,A2?,…,AN?.

Output Format
For each test case, output the maximum value among all different ordered triplets.

Sample Input
3
3
1 1 3
5
3 4 4 1 2
5
23 17 21 18 19

Sample Output
2
12
126

main.py

```
t = int(input())

while(t>0):
    t=t-1
    n=int(input())
    a=input().split()

    for i in range(0,n):
        a[i]=int(a[i])

    a.sort()
    a1=(a[-2]-a[0])*a[-1]
    a2=(a[-1]-a[0])*a[-2]

    print(max(a1,a2))
```

output